South Carolina Forestry Commission

SOUTH CAROLINA FORESTS

August 2021

Overview

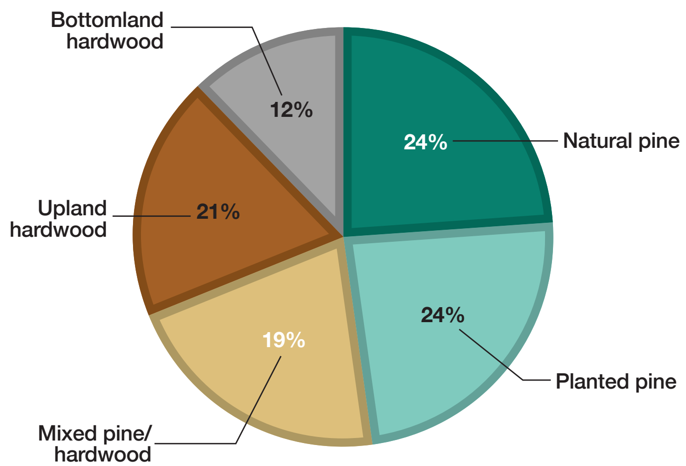
South Carolina forests are a diverse mosaic of softwood and hardwood forests, growing across a varied landscape that starts at the Atlantic Ocean and climbs to the Appalachian mountains. Our forestland acreage has remained relatively stable since early last century. However, the production of our forests has grown over the same time period, thanks in part to improving forest management and the establishment of plantation pine stands, which provide raw material to an ever-growing forest industry.

Current forest conditions

The area of forestland in the state remained relatively stable between 2014 and 2019, dipping slightly (<1%) to 12.86 million acres. Timberland was also relatively stable at 12.67 million acres, though this is down 2% from the 2011 high of 12.94 million acres.

Volume increases of more than 5% were seen from 2014 to 2019 to 26.86 million cubic feet, the most wood ever recorded in South Carolina history. Net annual growth of trees decreased, attributed to a dominant age group of pine reaching maturity, and also consistent with the increase in average annual removals shown (upper right).

Fig. 1: Forest type



Forest statistics

Forestland	2014	2019	Change
Area (1,000 acres)	12,974.1	12,855.7	-0.9%
Net volume of live trees	25,485.0	26,855.8	+5.4%
Net annual growth of live trees	1,296.4	1,264.1	-2.5%
Annual removals	826.6	963.3	+16.5%

Timberland	2014	2019	Change
Area (1,000 acres)	12,799.5	12,672.6	-1.0%
Net volume of live trees	24,973.1	26,310.8	+5.4%
Net annual growth of live trees	1,291.1	1,259.6	-2.4%
Annual removals	826.4	963.3	+16.6%

volumes are in million cubic feet

Fast facts

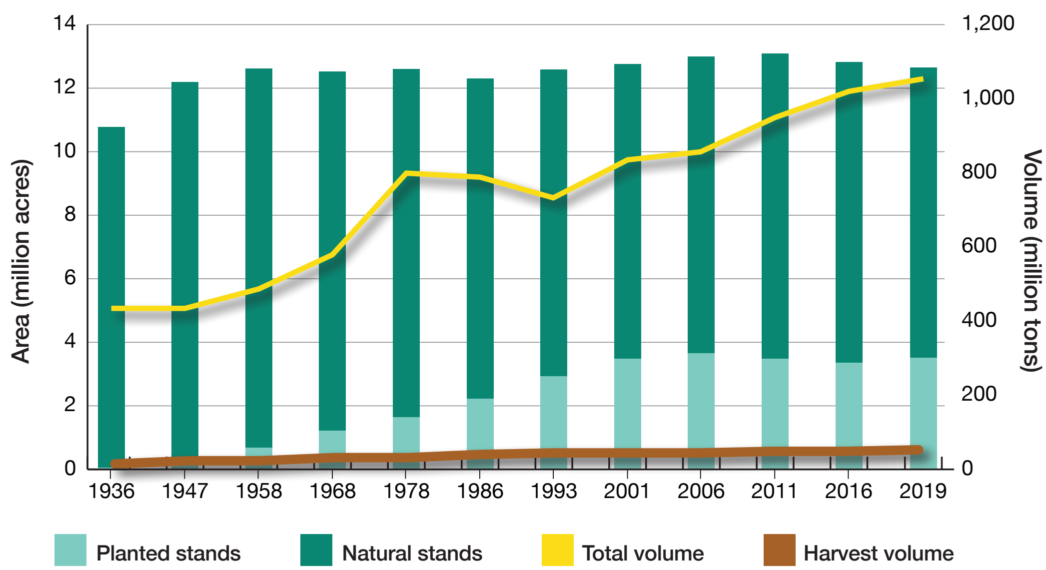
- South Carolina is 66.4% forested
- 87% of SC forests are privately owned
- 60% of private forests are family-owned
- Forest industries own 330,000 acres, down 84% since 2001
- Average family forest is 97.3 acres
- Public agencies manage 13% of forestland in SC
- 3.36 million acres of SC forest are in plantations
- SC's forest inventory includes more than 1.7 billion growing-stock trees with a dbh of 5 inches or greater
- Growth-drain ratios:
  - » Softwoods–1.33
  - » Hardwoods–1.55
  - » Total–1.38

Our forests over time

Our timberland base has remained fairly stable since our earliest surveys, with over 12 million acres of timberland first reported in 1947. However, recent surveys have shown a slight loss of timberland, attributed to land conversion from forestry to agricultural and urban uses. Since 2001, plantation stands, predominantly southern yellow pine, have averaged ~26% of timberland. This managed land provided 42% of the harvest volume in 2019 and reduces harvest pressure on our unmanaged forests.

Stand volume has shown an increase over time, reflecting the establishment of plantation acres, more forest management and better genetics, as well as the current state of the forest as a result of reforestation following Hurricane Hugo and tree planting efforts of the same time period. Harvest levels have also increased over the same time period, but continue to remove a relatively small portion of the current standing volume.

Fig. 2: Timberland area and live-tree volume



Ownership trends

Land ownership has been fairly consistent over the last 5 years, the only noticeable change being a 3% shift from individual to corporate ownership, and may reflect changes in classification of land rather than actual ownership. More significantly, timberland owned by industry has reduced almost 2 million acres since its historical high in 1986, though some recovery has occurred in recent years. Since 1968, state and local ownership has grown from 2% to 5%, while federal ownership grew from 7% to 8%.

Fig. 3: Land ownership

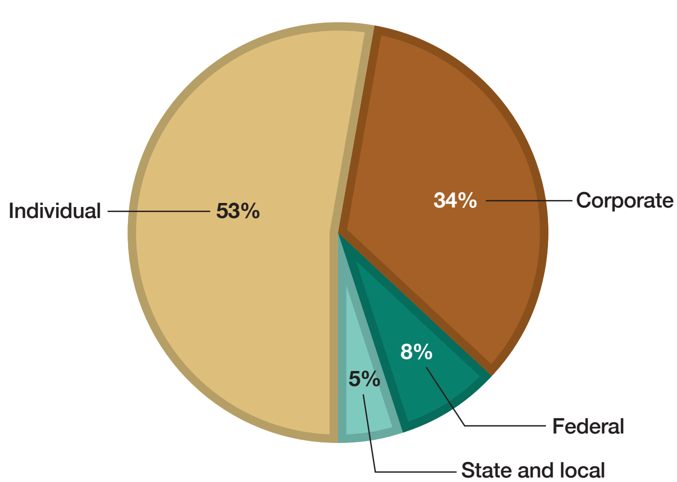
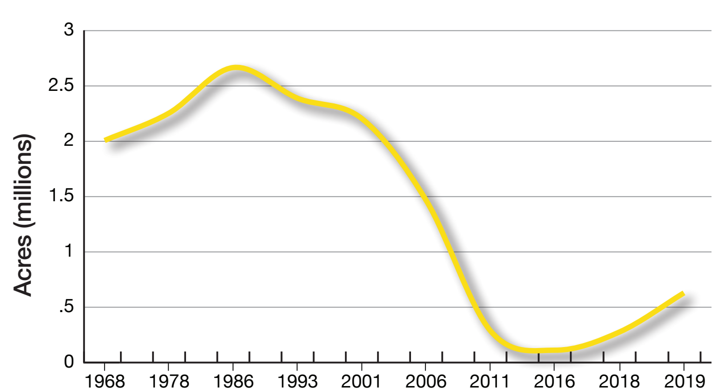


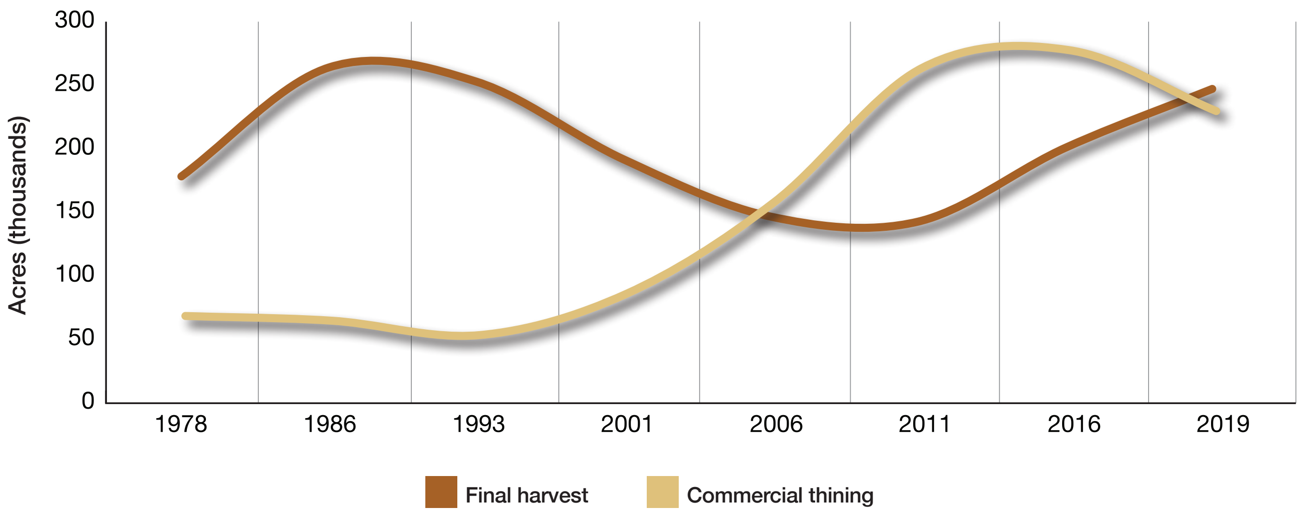
Fig. 4: Forest industry timberland



Harvest and plantings

Recent changes in harvest activity have shown final harvests overtaking commercial thinning by acreage around 2017 and has continued into 2019. Since 2006, commercial thinning dominated the landscape, partly due to stand conditions and the emergence of the Wall of Wood and also due to economic factors associated with the great recession. The current survey recorded average annual removals of almost 40% of rotational harvests (95,097 acres) in softwood stands and 43% in hardwood stands (105,017 acres), with mixed stands comprising ~13% (30,755 acres) and non-stocked the remaining 5%. Softwood stands accounted for 93% of all commercial thinning operations (204,389 acres), while hardwood thinnings were just under 3% (6,274) and mixed stands 4% (8,062 acres).

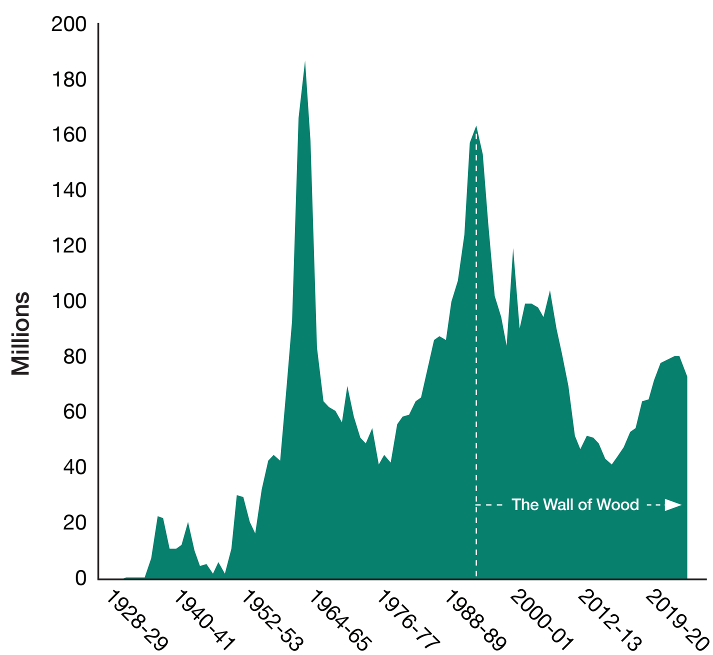
Fig. 5: Area of timberland harvested



The Wall of Wood is roughly 30 years old (shown below), and still dominates both the landscape and all age class categories for southern yellow pine. It has matured into sawtimber size classes, with the 10-inch through 14-inch size classes alone accounting for 47% of the total volume. A recent increase in plantings may be indicative of the establishment of a new dominant stand by age class; however, the acres being planted are not as widespread as seen previously.

Fig. 6: Timberland acres of Southern Yellow Pine, 2019

Fig. 7: Seedlings planted, 1928-2019



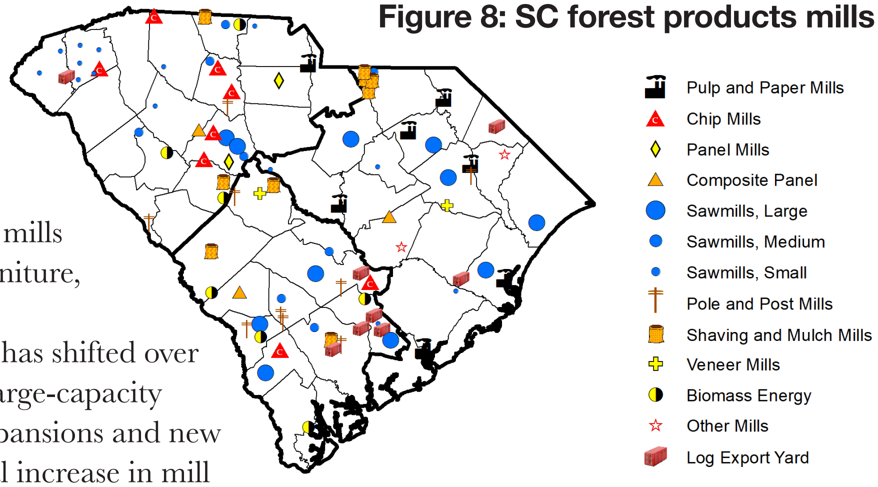
Forest products mills

There are 89 primary and almost 800 secondary forest product mills across South Carolina.

Primary mills process logs into lumber and other commodity products, while secondary mills produce value-added forest products like furniture, doors and moldings.

The makeup of the forest products industry has shifted over the years from small family-owned mills to large-capacity international operations. Taken together, expansions and new mill openings have resulted in a 1.8% annual increase in mill production from the 1930s to the present. From July 1, 2020 to June 30, 2021, 12 new industry announcements were made, resulting in $571.4 million in capital expenditures and the creation of 446 new jobs. In 2018, South Carolina's forest industry sector contributed $21.2 billion to the state's economy with 98,306 jobs.

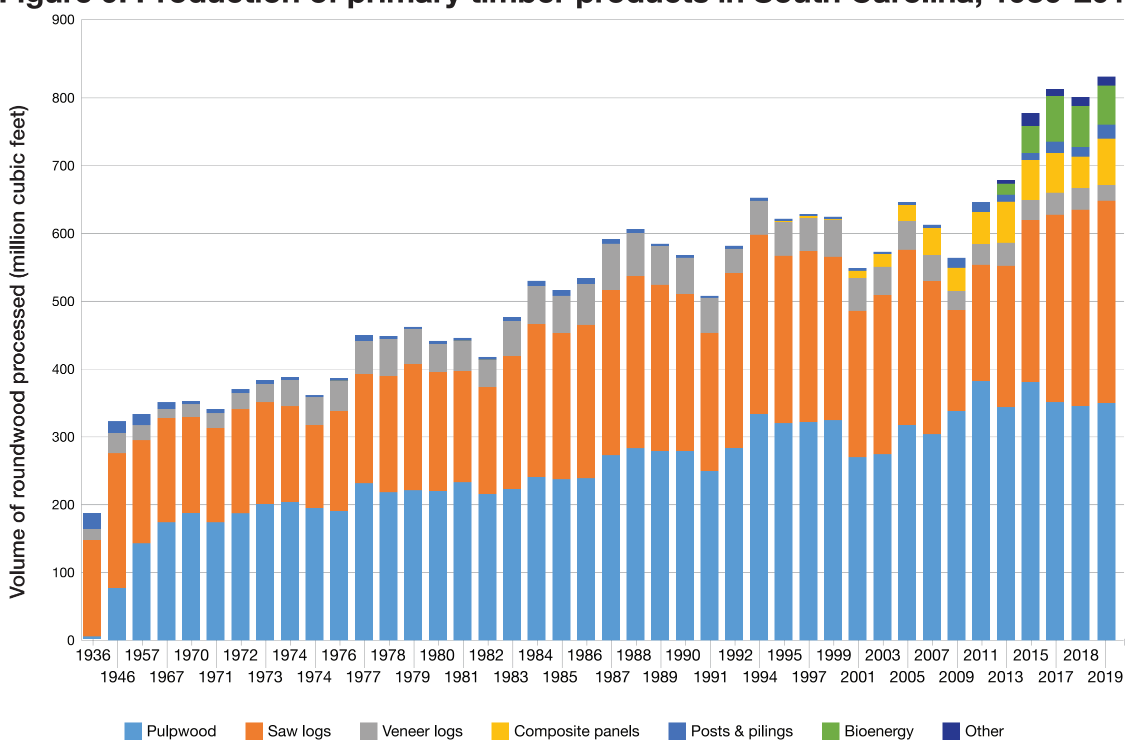
Figure 8: SC forest products mills



Timber product output

Roundwood harvested from South Carolina forest increased 2% between 2018 and 2019, to 820 million cubic feet. Pulpwood is the leading forest product by volume, and production increased slightly (~1%) to 358 million cubic feet between 2018 and 2019, with a delivered value of $407 million dollars. Combined timber product output was 819,861,000 cubic feet. Sawtimber production increased 4.5% to 290 million cubic feet, with a delivered value of $439 million. Total delivered value for all products was $1.06 billion. Timber volumes and growth remain at record levels and continue to increase, offering opportunities for expanded mill production, growth in job numbers, and improved landowner financial returns. South Carolina exported $1.25 billion in forest products in 2019, a decrease of 11.3% over the previous year. Exports from the top three industries – paper & paperboard, woodpulp, and solid wood products – represented 49%, 35% and 9% of the total reported for 2019, respectively. The top markets for forest products exports from South Carolina are China, Canada and India.

Figure 9: Production of primary timber products in South Carolina, 1936-2019



Data and graphics derived from US Forest Service 2019 Forest Inventory & Analysis and Timber Product Output reports.